

Application No. 09/903,215  
Amendment dated May 2, 2005  
Reply to Office Action of December 1, 2004

**REMARKS/ARGUMENTS**

Responsive to the Official Action mailed December 1, 2004, applicants have further amended the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, independent claims 12 and 19 have been amended. Reconsideration is respectfully requested.

In the Action, the Examiner has objected to the pending claims under 35 U.S.C. §103, with reliance upon U.S. Patent No. 6,022,818, in view of commonly-owned U.S. Patent No. 6,502,288, to Black et al., or in view of U.S. Patent No. 5,990,377, to Chen et al. However, it is respectfully maintained that applicants' claimed process, acknowledged by the Examiner to be novel, is neither taught nor suggested by the above references, even when combined, and accordingly, the rejections are respectfully traversed.

In response to the Examiner's requirement with respect to the rejection based upon the commonly-owned Black et al. reference, the applicants hereby state that the present application, and the Black et al. reference, were, at the time the invention of the present application was made, owned by, or subject to an obligation of assignment, to the same person. Applicants previously provided copies of the Assignment records for the Examiner's convenient reference. It is believed that the rejection based upon the commonly-owned Black et al. reference can now be withdrawn, but applicants

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respectfully request that the Examiner indicate any further statement that may be required for obviating this rejection.

As amended hereby, applicants have revised the pending claims to specify preferred practice of their invention, whereby subsequent to hydroentanglement to form the present multi-component fabric, the fabric is subjected to drying at an elevated temperature, whereby heat-fusible fibers from which the fabric is formed *stabilize the structure of the nonwoven fabric and enhance retention of the three-dimensional image of the fabric*. It is respectfully maintained that this aspect of the present invention is neither taught nor suggested by the cited references, and greatly facilitates versatile application of the present multi-component nonwoven fabric.

As noted in the specification, formation of the present multi-component fabric facilitates use in those applications where multi-component structures might typically be employed, such as in disposable absorbent garments. For such applications, the recited array of upstanding projections of the three-dimensional image desirably acts to minimize contact of the fabric with a wearer, while at the same time extending above a network of liquid-accepting channels further defined by the three-dimensional image imparted to the fabric construct. As noted, stabilization of the three-dimensional image, including the upstanding projections and liquid-accepting channels, is facilitated by drying the entangled fabric at an elevated temperature, thereby activating the heat-fusible fibers. It is clear the stabilization of a three-dimensional image in this fashion is

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not taught nor suggested by the principal Welchel reference, and it is respectfully maintained that the deficiencies in the teachings of this reference are not overcome by the secondary Chen et al. patent.

As previously noted by applicants, and as acknowledged by the Examiner, "Welchel fails to teach the precursor web as positioned on a three-dimensional image transfer device", with the Patent Examiner further acknowledging that "Welchel fails to teach . . . an array of upstanding projections extending above a network of liquid-accepting channels". Thus, there is no issue that the principal reference is completely devoid of any teachings or suggestions of providing three-dimensionality to the liquid-accepting surface, much less any teachings of providing upstanding projections for minimizing contact with a wearer, with an associated array of liquid-accepting channels.

In light of this acknowledged deficiency in the teachings of the principal reference, there can be little argument but that this reference also fails to teach or suggest applicants' further recited step of drying the nonwoven fabric at an elevated temperature to *stabilize the structure and enhance retention of the three-dimensional image*. Rather than recognize the desirability of stabilization of such a three-dimensional image, the Welchel et al. reference is specifically limited in its teachings to providing bi-component matrix fibers "to bond the two sheets together" (column 5, line 48).

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In view of the clear deficiencies in the teachings of the principal reference, care must be taken in evaluating the teachings of the newly-applied Chen et al. reference to determine if it can fairly be considered to overcome the acknowledged deficiencies in the teachings of the principal reference. In this regard, the secondary Chen et al. reference contemplates "an inherently hydrophilic base sheet comprising paper-making fibers" (column 51, lines 36-37) with hydrophobic material deposited on elevated regions of the base sheet. The patent states that:

Suitable base sheets can be prepared from aqueous slurries of paper-making fibers with known paper-making techniques (column 3, lines 25-26), and that "the base sheet may be formed as a unitary multi-layered structure . . . using layered or stratified head boxes (column 3, lines 45 *et seq.* Bonding of multi-layer structures is effected "preferably through hydrogen bonds formed between cellulosic fibers during drying" (column 3, lines 61 *et seq.*

Thus, it is respectfully maintained that even when combined, the principal Welchel et al. and secondary Chen et al. references fail to teach or suggest the formation of a multi-component fabric having an array of upstanding projections, and associated liquid-receiving channels, wherein the inclusion of heat-fusible fibers acts to stabilize the fabric structure, and enhance retention of the three-dimensional image.

There is no teaching or suggestion in the principal Welchel reference of forming a three-dimensional image, or retaining the image by virtue of activation of heat-fusible fibers. The secondary Chen et al. reference specifically contemplates the formation of the *wet-laid cellulosic fibrous structure*, and thus does not teach or suggest formation

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and retention of a three-dimensional image by inclusion of heat-fusible fibers, in a multi-component hydroentangled fabric subjected to elevated temperature for activating the heat-fusible fibers.

In the Action, the Examiner has acknowledged the deficiencies in the combined teachings of Welchel et al. and Chen et al. in teaching applicants' specifically claimed basis weight ranges and fiber denier ranges. The Examiner has stated that "it would have been obvious . . . to optimize" the specified basis weight ranges, and fiber deniers.

Applicants must respectfully disagree with this characterization of the prior art teachings. The secondary Chen et al. reference has no teachings whatsoever regarding formation of fibers like those claimed into a three-dimensional array of upstanding projections and liquid-accepting channels. In view of this, there can be *no teachings* in the secondary Chen et al. reference of how one skilled in the art should "optimize" prior art teachings, since only applicants' own disclosure teaches or suggests formation of a multi-component nonwoven fabric structure, having a three-dimensional array of projections and channels, which is heat-stabilized by the inclusion of heat-fusible fibers. Since neither the principal nor secondary references teach this important aspect of applicants' invention, these references clearly cannot properly be relied upon to teach those skilled in the art how to "optimize" applicants' specified basis weight and fiber denier ranges.

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In the Action, the Examiner relies upon *In Re: Boesch* in connection with the rejection under 35 U.S.C. §103. However, applicants must respectfully maintain that the facts in the cited *Boesch* case are inapposite to the present application. In *Boesch*, the claims at issue related to nickel alloy compounds, with the prior art teaching the principles relating to the effects that could be expected in connection with certain alloy formulations. In that case, the Court noted that "we are persuaded that one of ordinary skill in the art would have been guided by these [prior art] principles, and went on to state "this accords with the rule that discovery of an optimum value of a result effective variable *in a known process* is ordinarily within the skill or the art (emphasis supplied, citations omitted).

The Court went on to state:

It is well settled that a *prime facie* case of obviousness may be rebutted where the results of optimizing a variable, which was known to be result-effective [are] unexpectedly good.

In the present case, *neither of the cited references* teach the desirability of providing a heat-stabilized three-dimensional image in a multi-component nonwoven fabric construct. Thus, applicants must respectfully maintain that there can be no "optimization" of the prior art, in distinction from the *Boesch* case, when the prior art fails to teach or suggest the feature for which "optimization" is to be effected.

In the Action, in refuting applicants' previous arguments, it states that for obviousness, "the test is what the combined teachings of the references would have

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suggested to those of ordinary skill in the art". Applicants respectfully refer to M.P.E.P. Section 2143.01, which specifically admonishes that "the prior art must suggest the desirability of the claimed invention" (citations omitted). Moreover, as specifically provided by M.P.E.P. Section 2143.03, "all claim limitations must be taught or suggested" (citations omitted); in the present case, neither of the cited references teach heat-stabilization of a three-dimensional image in a multi-component nonwoven fabric construct, as claimed.

In view of the foregoing, formal allowance of claims 12-21, and 24, is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

By 

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CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **May 2, 2005.**

